

REMARKS

Claims 3-11, all the claims pending in the application, stand rejected. Claims 6 and 8 are cancelled. Claims 3 and 9 are amended to conform with U.S. practice and correct language informalities and to further clarify the claimed invention.

As a preliminary matter, Applicant wishes to express his appreciation to the Examiner for the courtesy extended to the Applicant's representatives during an interview conducted on February 6, 2007, in which the novel and unobvious features of the present invention were discussed. Applicant has endeavored to define the invention in a manner that clearly states the discussed features so that all of the pending claims may be allowed.

Claim Objections

The objection is moot in view of the cancellation of claims 6 and 8.

Claim Rejections - 35 U.S.C. § 112

Claims 3-8 and 9 are rejected as failing to define the invention in the manner required by 35 U.S.C. § 112, second paragraph. The Examiner finds that claim 9 lacks antecedent basis for one limitation. The improper limitation has been deleted. Thus the rejection should now be withdrawn.

Claims 3-8 are rejected due to their dependency on claim 9. The rejection is moot for claims 6 and 8 in view of the cancellation of these claims. With respect to the remaining claims 3-5 and 7, this rejection is overcome in view of the amendment to parent claim 9.

Claim Rejections - 35 U.S.C. § 103

Claims 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yuen et al (GB 2301179) in view of Taylor (6,911,186). This rejection is traversed for at least the following reasons.

The pertinent feature that defines the present invention over the prior art represented by Applicant's own publication is the presence of an air collector 25 defining a space within which the ionizer tube is disposed and through which air is directed to efficiently flow around the tube and effectively clean the air of contaminants. The air collector 25 is not found in Yuen et al, or any other prior art reference, and thereby provides a basis for patentability.

Yuen et al

First, in Yuen et al, the filter frame is not an "air collector" as claimed. The reference at page 4 describes the air inlet as comprising a filter holder 26 for a foam filter 28. Within the body adjacent to the filter holder is a UV emitter tube 32. The claim now requires the tube to be within the air collector space. Thus, the filter frame 26 cannot be the air collector.

Second, the application at pages 7 and 8 describe the "air collector 25" to be disposed upstream of the fan 10 that extracts contaminated air and drives the air into exhaust frame grid 2. The air collector 25 has a space that is defined by walls 26, which extend from the sides of the body, and a blocking partition that is upstream of the walls 26. The walls are spaced apart to further define air inlets 27. The space contains the radiation tube 21, which is disposed proximate to the air inlets 27.

Claim 9, the only independent claim pending in the application, has been amended to expressly requires that the photoelectric air cleaner has an air collector 25 that comprises(1) a space defined by (2) air collecting walls 26 and (3) a blocking wall 28 upstream of the air collection walls 26, wherein the air collecting walls 26 extend from the side portions of the body and are space apart from the blocking wall, forming air inlets 27. Within the space is an ultra violet band C radiation tube 21 that is disposed between the air collecting walls 26 and the blocking wall 28. With reference to Fig. 3 of the application, air drawn by the fan 10 enters the inlet, passes through a filter and engages the blocking wall 28, passes to the sides and then engages the air collecting walls 26. The air is forced to flow through the inlets 27 and pass efficiently around all sides of the tube 21, where it is ionized and cleaned. Thereafter, the air passes beyond the fan 10 to the outlet and the grid with carbide fiber line 12 for final cleaning. This arrangement provides a highly efficient purification of air passing through the purifier because the air collector 25 is structured to direct the contaminated air to the UV tube contained therein for cleansing, and still provide protection to the user against UV rays.

Taylor et al

At page 5, the Examiner also finds it would have been obvious to use Taylor's front (274a) and back (274b) blocking walls surrounding the ultraviolet radiation tube 290 to prevent emission of UV light from the interior space, as taught at Fig. 5b and at col. 12, line 65 - col. 13, line 37, specifically col. 13, line 15.

However, the claimed air collector, having a space defined by an air collecting wall and blocking wall, is not met by the structure in Taylor et al, either alone or in combination with

Yuen et al. Taylor does not disclose that the back wall blocking wall (274b) is extending from side portion of the body. Additionally, the back blocking wall (274b) is used to prevent a user from directly looking through the outlet 260 and viewing the UV radiation emitted from the lamp 290 (col. 13, lines 13-15). Also, if the back blocking wall (274b) extended from the side portion of the body, Taylor would teach away from the design of the housing 210 for having the air subject to the radiation tube 280 for the longest period possible (col. 12, lines 15-37) because if Taylor had an inlet and outlet, the air would be directed to flow which would be contrary to the electro-kinetic design in Taylor that is concerned with irradiated the air in the housing 210 by the UV light for the longest period of time (abstract).

Additionally, with respect to claim 9, Applicant submits that the body is defined as having a continuous semicircular shape including a front, top and rear portion and that placement of the fan at the outlet side of the ultraviolet light is significant in that it prevents contamination of the fan since the air is drawn past the light before entering the fan. Further, Applicant respectfully submits that the disposition of the partition wall 28 and air collector 25 permits air to efficiently flow around the tube 21 without interference from the fan, prior to being blown to the outlet grill having the carbon fiber line 12. This offers a highly efficient and effective structure not found in Yuen et al or Taylor et al, or in the references as combined.

Claim 10

Regarding claim 10, the Examiner finds Yuen et al discloses that the fan 36 is at an angle to the flat base 22 and orthogonal to the direction of air flow at the air outlet, as illustrated in fig.

2. The reference also is alleged to disclose that the radiation tube 32 is at an angle to base 22 and orthogonal to the direction of air flow.

In contrast, Applicant submits that placement of the fan at the outlet side of the ultraviolet light is significant in that it prevents contamination of the fan since the air is drawn past the light before entering the fan. Further, Applicant submits that the disposition of the partition wall 28 and air collector 25 permits air to efficiently flow around the tube 21 without interference from the fan, prior to being blown to the outlet grill having the carbon fiber line 12. This offers a highly efficient and effective structure. Furthermore, fan 10 and tube 21 are disposed at an angle to the horizontal base of the structure, as illustrated in Fig. 2. This permits a more compact design and desirable exit angle for the air as it is blown into a room. Thus the claim is patentable.

Claim 11

With respect to claim 11, the Examiner finds that Yuen et al discloses that the air inlet at 30 is disposed on the rear end of the main body and has an air input gridiron, filter 30, with a dustproof gridiron in the nature of filter 26. The Examiner notes that the dust screen is filter 28, and that dust cover for the inlet is disclosed at page 4, line 17-25 of Yuen et al.

On the basis of the content of independent claim 9, and the content of dependent claims 10 and 11, this rejection is overcome because of structural limitations as outlined above.

Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Yuen et al in view of Taylor et al as applied to claim 9, and further in view of Cartellone (5,837,020) and Bullard (2,085,249). This rejection is traversed for at least the following reasons.

The Examiner admits that Yuen et al in view of Taylor et al fail to specifically teach a portable device that includes a movable handle and movable gallus fixed to the body of the device by a buckle.

The Examiner looks to Cartellone for the disclosure of a portable air room cleaner (10) that includes a handle (154), where the handle is movable based on a pivot in a handle mount 156 on the top section 106, as illustrated in Fig. 1 and explained col. 2, lines 9-16. The Examiner states that this reference has been relied upon to teach that it is well known to use a moveable handle on a portable air treatment device.

The Examiner also looks to Bullard for a portable air respirator apparatus where shoulder straps 7 and away strap 6 may be used with suitable buckles (8) to permit mounting of the air purifier on the body of a user, as explained at col. 1, line 54-col. 2, line 12 of Bullard. The Examiner states that this reference has been relied upon to teach that it is well known to use a strap connected by a buckle on a portable air treatment device.

The Examiner asserts that it would have been obvious to modify Yuen et al to include a moveable handle and a moveable strap connected by a buckle as taught by Cartellone and Bullard in order to support the device on the body of a user (col. 1, line 55), and provide a handle for moving the device from room to room (col. 12, lines 9-11). Applicant respectfully submits that these structures are not relevant to a semicircular body, as claimed. Applicant submits that the semicircular structure creates unique problems that may be solved only by the structure defined in the rejected claim. Thus, in the absence of some teaching or suggestion for

modification of Yuen et al, Taylor et al, Cartellone et al and Bullard, Applicant respectfully submits that the claims are patentable.

Claims 3 and 5-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yuen et al in view of Taylor et al as applied to claim 9, and further in view of Sham et al (6,464,760). This rejection is traversed for at least the following reasons.

The rejection is moot for claims 6 and 8 in view of the cancellation of these claims.

Claim 3

Claim 3 is patentable for at least the reasons given with respect to the parent claim 9.

Sham et al does not remedy these deficiencies.

Claims 5 and 7

Again, claims 5 and 7 are patentable for at least the reasons given with respect to the parent claims. Sham et al does not remedy these deficiencies.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. APPLICATION NO. 10/698,441

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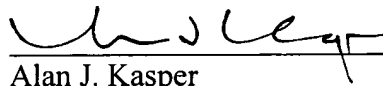
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